



WHAT WE CLAIM IS:

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47. A method of cleaning an article with an active liquid cleaning composition, including the step of:
bringing into contact with an article a liquid cleaning composition comprising at least 65% by weight water and an organic component containing molecules having lipophilic and hydrophilic groups, wherein at a temperature that prevails during a cleaning process, said organic component is present in said water at a concentration greater than its miscibility in said water, whereas at at least one of a different temperature and a different concentration, said organic component is completely dissolved in said water so as to form an optically clear liquid.

48. A method according to claim 47, wherein said cleaning composition is brought into contact with an article at a cleaning process temperature of from 40 to 60° C.

49. A method according to claim 47, which includes the step of undertaking cleaning under the effect of ultrasound.

50. A method according to claim 47, wherein said liquid cleaning composition is an azeotrope, and which furthermore includes the step of causing vapor from said liquid cleaning composition to condense on said article that is to be cleaned therewith.

51. A method according to claim 50, wherein said liquid cleaning composition has a composition that corresponds to that of its vapor.

52. A method according to claim 51, which includes the further step of circulating said liquid cleaning composition in an evaporation-condensation circuit that contains a filter.

Sul H5

53. A method according to claim 47, wherein said organic component is completely dissolved in said water at a temperature that is lower than said temperature that prevails during a cleaning process.

54. A liquid cleaning composition for cleaning an article, comprising:

New M

at least 65% water; and
an organic component containing molecules having lipophilic and hydrophilic groups, wherein at a temperature that prevails during a cleaning process, said organic component is present in said water at a concentration greater than its miscibility in said water, whereas at at least one of a different temperature and a different concentration, said organic component is completely dissolved in said water so as to form an optically clear liquid.

Sul C20

55. A liquid cleaning composition according to claim 54, wherein the ratio of said organic component to water is 1.0 to 35.0:99.0 to 65.0.

56. A liquid cleaning composition according to claim 54, wherein said organic component is completely dissolved in said water at a temperature that is lower than said temperature that prevails during a cleaning process.

Sul New M

57. A liquid cleaning composition according to claim 55, wherein said water is present by at least 75% by weight.

New M

58. A liquid cleaning composition according to claim 57, wherein said water is present by at least 85% by weight.

59. A liquid cleaning composition according to claim 58, wherein said organic component is selected such that the greater than its miscibility concentration occurs upon heating of said organic component to a cleaning process temperature.

Sab H
60. A liquid cleaning composition according to claim 54, wherein said organic component is such that said liquid cleaning composition is an azeotrope.

61. A liquid cleaning composition according to claim 54, wherein said organic component is a solvent having the general formula:



where R^1 and R^3 are each independently selected from the group consisting of H, CH₃, straight-chain or branched saturated C₂ to C₁₈ alkyl groups, straight-chain or branched, unsaturated C₃ to C₁₈ groups, saturated or unsaturated cyclic C₃ to C₈ groups in which one or more nonadjacent -CH₂- groups may be replaced by -O-, hydroxy, alkoxy, and amino in which one or both hydrogens may be replaced by C₁ to C₈ alkyl groups; *New m (C₁ - C₈)*

X is selected from the group consisting of -O-, -C(=O)-, -C(=O)-O-, -NH-, NR¹, N(OH)-, straight-chain or branched C₂ to C₈ alkylene groups in which one or more nonadjacent -CH₂- groups may be replaced by -O-; ?

and n represents whole integers.

62. A liquid cleaning composition according to claim 54, which further includes at least one of the group consisting of a not spontaneously evaporating cleaning reinforcer and a corrosion protection additive.

63. A liquid cleaning composition according to claim 54, wherein said organic component includes a glycol ether as well as a further organic component.

64. A liquid cleaning composition according to claim 63, wherein said glycol ether is dipropylene glycol mono-n-propyl ether.

65. A liquid cleaning composition according to claim 54, wherein at said temperature that prevails during a cleaning process, said composition is present in

C2

two phases, including droplets of said organic component in a continuous aqueous phase.